

REMARKS

Claims 12, 14, 20, 22, 24-28, 30-36, 38-43, 45-50, 52-57, 59-64 and 66-78 were pending when last examined. With this Response, Applicants have amended claims 12, 20, 22, 24, 27-28, 30, 34, 36, 38, 41, 43, 45, 48, 50, 52, 55, 57, 59, 62, 64, 66 and 69. No new matter has been added. Support for the amendment can be found at least in FIG. 1 and the corresponding description in the specification.

Claim Rejections – 35 USC § 103

Claims 12, 14, 20, 22, 24-28, 30-36, 38-43, 45-50, 52-57, 59-64 and 66-78 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Publication 2003/0233241, filed 6/6/2002, published 12/18/2003 (“Marsh”) in view of U.S. Patent Publication 2002/0045951, filed 10/4/2001, published 4/18/2002 (“Maesaka”). Applicants respectfully traverse the rejections.

Claim 12, as amended, recites a method implemented by an apparatus for supplying electronic documents based on XML. The method includes supplying from a provider of a program broadcasting system to a client in the program providing system an electronic document that uses XML to describe programming information about a plurality of television broadcast programs scheduled for broadcast in the program broadcasting system. The electronic document has a hierarchical structure based on a prescribed syntax. The hierarchical structure includes an upper fragment and a plurality of lower fragments located below the upper fragment in the hierarchical structure to describe, for each of the scheduled television broadcast programs, a program identifier, a title, broadcast information and corresponding program content information. The method also includes supplying from the provider to the client an update document to update content in the previously supplied electronic document. The update document has a structure based on the prescribed syntax and includes the upper fragment and an invalid element to identify an invalid content portion in one of the lower fragments in the hierarchical structure, wherein the invalid content portion is related to one of the television broadcast programs described in the previously

supplied electronic document, and wherein the update document indicates deletion of said invalid content portion from the electronic document according to the invalid element.

Marsh and Maesaka fail to disclose the claimed method for updating a previously supplied electronic document. The Examiner admits that Marsh fails to disclose updating a portion of an existing XML document, and points to Maesaka for the missing subject matter. Maesaka, as the Examiner admits, is also lacking as it is directed toward a client updating a document at the server. The Examiner, however, asserts that it would have been obvious to combine and modify the teachings of Marsh and Maesaka to obtain the claimed subject matter. Applicants respectfully disagree.

Maesaka discloses receiving structural data from the server that identifies the current, detailed structure of the document to be updated. Based on that detailed structure, the client can provide a “path” to identify the portion of the document which needs to be updated. In contrast, the claimed electronic document has a hierarchical structure based on a prescribed syntax, where the hierarchical structure includes an upper fragment and a plurality of lower fragments, and the update document also has a structure based on the prescribed syntax and includes the upper fragment in addition to an invalid element to identify an invalid content portion in one of the lower fragments. Marsh and Maesaka fail to disclose at least these limitations of the claim.

In addition, the claim explicitly recites a program broadcasting system. In such a broadcasting system, individual clients typically do not need to update documents at the server. Instead, one or more servers need to update previously sent documents at a large number of clients, each of which may have a different detailed structure for those documents (for example, due to modifications based on information from other servers). The invention solves this problem by prescribing a syntax for the document structures and including the upper fragment in the update document. Neither of the references nor the Examiner’s suggestion provides or makes obvious the claimed solution. In fact, the method suggested by the Examiner based on Marsh and Maesaka would put a huge burden on the server in the broadcasting environment as the server should separately learn the detailed structure of the

electronic document at each individual client so that it can provide the detailed “path” required for individual updates. Thus, the claimed invention provides a novel and non-obvious solution to the problem of updating XML documents in the broadcasting environment. Accordingly, claim 12 should be allowable.

Independent claims 20, 22, 25, 28, 36, 43, 50, 57, and 64, as amended, recite a prescribed syntax similar to that discussed above with reference to claim 12, and should be allowable for at least the same reasons.

Dependent claims 24-27, 30-35, 38-42, 45-49, 52-56, 59-63, 66-68, 70 and 73-78 should be allowable for at least the same reasons as their respective base claims.

CONCLUSION

Applicants respectfully request that the pending claims be allowed and the case passed to issue. Should the Examiner wish to discuss the Application, it is requested that the Examiner contact the undersigned at (415) 772-7428.

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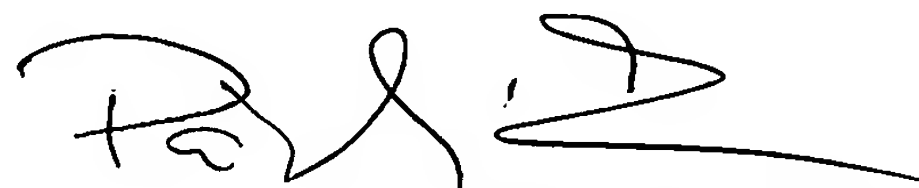
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Date

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